

presence of cells. 3. The yeast phase can be propagated and maintained in tissue culture mediums without HeLa cells in 100 ml centrifuge bottles. 4. Rotation of cultures is necessary to assure maximum growth of yeast cells in tissue culture medium. 5. The technic can be successfully used to convert other diphasic systemic fungi, *Blastomyces dermatitidis*, *Sporotrichum schenckii*, and *Coccidioides immitis* to their tissue phase. 6. *Candida albicans* and *Cryptococcus neoformans* can be propagated in tissue culture medium without HeLa cells.

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Received October 4, 1956. P.S.E.B.M., 1956, v93.

Effect of *Rauwolfia serpentina* on Thyroid and Pituitary Glands of Young Rats.* (22839)

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The active components of *Rauwolfia serpentina* are held to exert their effects by way of the central nervous system, and it is believed that their influence on the endocrine glands is of minor consequence (Gaunt *et al.* 1). However, in the present study the prolonged administration of a preparation of the whole root to a group of young rats resulted in a significant diminution of the weights of both the pituitary and thyroid glands.

Procedure. The rats employed were of the Sprague-Dawley strain, females, and 21 days of age at the beginning of the experiment. Twenty were treated and 16 littermates remained uninjected as controls. The *Rauwolfia serpentina* was given in aqueous solution by subcutaneous injection and at a daily dosage equivalent to 1 mg per kilo body weight. A fresh solution was prepared and adjusted once weekly to the weight of the animals. The injections were continued until the animals were from 65 to 70 days old when they were sacrificed with illuminating gas. At autopsy the body weight and the weights of the hypophysis, thyroid, adrenals, and ovaries were obtained.

Results. The rats remained active and in good condition throughout the period of treatment, although the injected animals ate somewhat smaller quantities of food and eventually their body weight was generally less than that of the controls. The day of vaginal opening, indicating the onset of complete ovarian function, occurred from the 43rd to the 52nd day of age in the experimental group as compared to the 41st to the 46th day in the controls.

The organ and body weights of the individual rats found at autopsy are given in Table I, while Fig. 1 presents the data for the thyroid and pituitary weights arranged on a semi-logarithmic scale. The oblique lines (broken lines for the controls; continuous for the experimental) represent the average log-organ to body weight relationship as estimated by the method of least squares. The vertical distance between the two lines in each case offers comparison between the organ weights with allowance for body weight. For the pituitary gland this vertical difference is .0338 (in units of logarithms) which corresponds to an 8% smaller size (after adjustment for body weight) in the experimental than in the control group. This dif-

* Supported in part by research grant No. G4034 from N.I.H., U.S.P.H.S.

TABLE I. Body and Organ Weights of Rats following Daily Injection of *Rauwolfia serpentina* 1 mg per Kilo Body Weight for 44 to 49 Days.

Experimental					Controls				
Body wt	Adren.	Ovaries	Thyroid	Pit.	Body wt	Adren.	Ovaries	Thyroid	Pit.
(g)									
146	.041	.041	.006	.0065	170	.047	.049	.011	.009
168	.045	.056	.0065	.0085	169	.051	.052	.010	"
180	.046	.050	"	"	174	.045	.047	.011	"
157	.039	.053	"	"	184	.059	.046	"	.010
156	.051	.051	"	.008	186	.048	.072	"	.011
171	.054	.056	.007	.0085	188	.053	.063	.010	.010
186	.042	.059	.008	.0095	196	.054	.057	.011	.011
188	.060	.066	.0075	"	201	.058	.069	"	"
153	.041	.048	"	.0075	197	.049	.058	"	"
197	.053	.046	"	.0095	184	.052	.051	"	.010
200	.060	.066	.0085	.010	166	.048	.050	"	"
134	.048	.020	.0065	.0075	180	.054	.046	"	"
180	.045	.055	.008	.0095	170	.048	.024	.010	.008
184	.055	.054	"	"	190	.068	.061	.011	.010
165	.042	.031	.0075	.008	184	.070	.074	"	.011
158	.040	.047	.007	.0075	189	.065	.071	.010	"
190	.051	.054	.008	.0095					
191	.046	.065	"	.010					
188	.055	.062	.009	"					
174	.052	.055	.0085	.009					

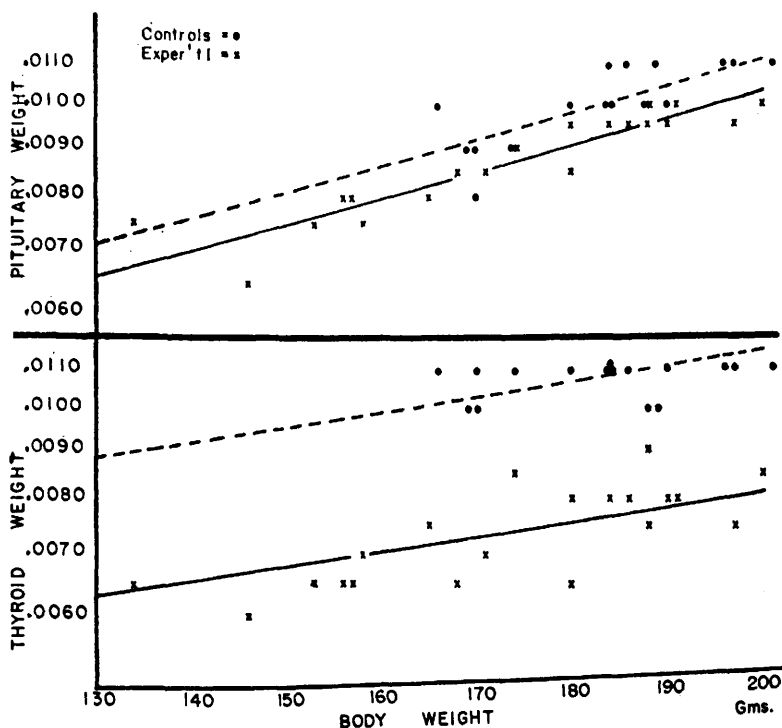


FIG. 1. Oblique lines (broken lines for controls, continuous for experimental) represent avg log-organ to body wt relationship as estimated by the method of least squares.

ference has a standard error of .0126 and is thus statistically significant at the 1% level.

The corresponding difference for the weights of the thyroid is .1467 (standard error of .01), corresponding to a 40% smaller weight in the experimental group than in the control. The data for the ovaries and the adrenals show no effect when analysed statistically by the same method (analysis of covariance).

Administration of *Rauwolfia serpentina* at daily dosages of 2, 3, and 6 mg per kilo body weight and for similar periods of time resulted in such a profound loss of body weight that it was felt that organ differences were greatly affected by changes due solely to partial starvation. Another group of 20 rats was treated in the same manner with a daily dosage of 2.5 mg per kilo body weight of chlorpromazine (Thorazine—S.K.&F.) but without any appreciable change in body and organ weights.

Summary. 1. An extract of *Rauwolfia serpentina* was administered daily by subcutaneous injection to 20 rats. The daily dos-

age was equivalent to 1 mg/kilo body weight and was continued from 21st to the 65th to 70th days of life. At autopsy body weights and weights of pituitary gland, thyroid, ovaries, and adrenals were obtained. 2. Application of analysis of covariance leads to the conclusion that at this dose level administration of *Rauwolfia serpentina* to young rats resulted in (1) a diminution of weight of thyroid by 40%, at the 1% level; (2) a similar reduction in weight of pituitary gland by 8%; (3) no significant change in either ovarian or adrenal weights, after making allowance for body weight differences.

My thanks are due to Dr. Lincoln E. Moses for statistical analyses; to Mr. V. Montesclaros for technical assistance; to Dr. Georg Cronheim and Riker Laboratories for *Rauwolfia serpentina* and to Dr. William E. Kirsch and Smith, Kline and French for the chlorpromazine.

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Received October 19, 1956. P.S.E.B.M., 1956, v93.